CORROSION RESISTANT COATINGS

IN THE CLAIMS

Please amend the claims as follows:

 (Currently Amended) A corrosion inhibiting coating composition comprising: one or more organic binders; and solid components comprising:

a praseodymium oxide selected from the group consisting of oxides, mixed oxides, solid solution oxides, hydrated oxides, hydroxides, and combinations thereof

wherein the praseodymium oxide solid components emprises comprise about 1wt% to about 90 wt% of the solid components praseodymium oxide;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

- 2. (Previously Presented) The composition of claim 1 wherein the solid components further comprise a rare earth compound selected from the group consisting of rare earth oxides, mixed oxides, solid solution oxides, hydroxides, hydrated oxides, salts, triflates, complexes and combinations thereof.
- 3. (Previously Presented) The composition of claim 2 wherein the rare earth compound is an anhydrous or hydrated oxide.
- 4. (Previously Presented) The composition of claim 2 wherein the rare earth compound comprises one or more metal cations selected from the group consisting of praseodymium, terbium, cerium, samarium, ytterbium, yttrium, neodymium and combinations thereof.
- 5. (Previously Presented) The composition of claim 2 wherein the rare earth compound is selected from the group consisting of cerium oxide, cerium hydroxide, cerium mixed oxide, cerium oxide mixture, cerium salt, neodymium oxide, neodymium hydroxide, neodymium oxide

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mixture, neodymium salt, praseodymium oxide, praseodymium hydroxide, praseodymium mixed oxide, praseodymium oxide mixture, praseodymium salt, ytterbium oxide, ytterbium hydroxide, ytterbium oxide mixture, ytterbium salt, yttrium oxide, yttrium hydroxide, yttrium mixed oxide, yttrium oxide mixture, yttrium salt, terbium oxide, terbium hydroxide, terbium mixed oxide, terbium oxide mixture, terbium salt, and combinations thereof.

- 6. (Previously Presented) The composition of claim 2 wherein the rare earth compound is a praseodymium compound.
- 7. (Currently Amended) The composition of claim 1 wherein the praseodymium oxide is selected from the group consisting of praseodymium(III), praseodymium(III/IV), praseodymium(IV) compounds oxides and mixtures thereof.
- 8. (Previously Presented) The composition of claim 1 wherein the praseodymium oxide is a praseodymium(III) oxide.
- 9. (Canceled).
- 10. (Previously Presented) The composition of claim 1 wherein the praseodymium oxide is a praseodymium(III/IV) compound.
- 11. (Previously Presented) The composition of claim 10 wherein the praseodymium(III/IV) compound is a praseodymium(III/IV) oxide.
- 12. (Previously Presented) The composition of claim 1 wherein the praseodymium oxide is a praseodymium(IV) oxide.
- 13. (Currently Amended) The composition of claim 1 wherein the praseodymium oxide solid components comprises comprise about 1 wt% to about 28 wt% of the solid components praseodymium oxide.

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14. (Currently Amended) The composition of claim 1 wherein the praseodymium oxide solid

components comprises comprise about 3 wt% to about 28 wt% of the praseodymium oxide solid

components.

15. (Previously Presented) The composition of claim 1 wherein the solid components further

comprise one or more extenders selected from the group consisting of a neutral to slightly acidic

generating extender, an acidic generating extender, and combinations thereof.

16. (Previously Presented) The composition of claim 15 wherein at least one of the one or

more extenders is a sulfur, phosphorus or silicon oxyanion-containing salt.

17. (Original) The composition of claim 1 wherein the composition is selected from the

group consisting of aqueous, solvent-based, and powder coating compositions.

18. (Previously Presented) The composition of claim 1 wherein the composition is an

aqueous composition.

19. (Previously Presented) The composition of claim 1 wherein at least one of the one or

more organic binders is selected from the group consisting of epoxy, urethane, urea, acrylate,

alkyd, melamine, polyester, vinyl, vinyl ester, organo-silicone, organo-siloxane, organo-silicate,

organo-sulfide, organo-sulfone, epoxy novolac, epoxy phenolic, amides, drying oils, and

hydrocarbon polymers.

20. (Previously Presented) The composition of claim 1 wherein at least one of the one or

more organic binders is an epoxy-based resin binder.

21. (Previously Presented) The composition of claim 1 wherein the solid components further

comprise a material selected from the group consisting of linear and cyclic dextrins, triflic acid,

triflates, acetates, talc, kaolin, organic-based ion exchange resins, and combinations thereof.

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22. (Original) The composition of claim 21 comprising about 0.03 to about 5 wt%

cyclodextrin, about 0.1 to about 0.5 wt% triflic acid, or about 0.1 to about 5 wt% ionic exchange

resin.

23. (Withdrawn) The composition of claim 1 further comprising a material selected from the

group consisting of gelatin and gelatin derivatives.

24. (Withdrawn) The composition of claim 23 comprising about 0.03 to about 5 wt%

gelatin.

25. (Withdrawn) The composition of claim 1 further comprising a material selected from the

group consisting of amino acids, amino acid derivatives and combinations thereof.

26. (Withdrawn) The composition of claim 25 wherein the amino acid is selected from the

group consisting of glycine, arginine, and methionine.

27. (Withdrawn) The composition of claim 25 wherein the amino acid derivative is

methionine sulfoxide or methionine methyl sulfoxide.

28. (Withdrawn) The composition of claim 25 comprising about 0.1 to about 5 wt% amino

acid.

29. (Withdrawn) The composition of claim 2 wherein the rare earth compound is a rare

earth carbonate or a rare earth triflate.

30. (Previously Presented) The composition of claim 1 wherein the solid components further

comprise a coloring pigment.

31. (Original) The composition of claim 30 wherein the coloring pigment is TiO₂. 35. (Currently Amended) A corrosion inhibiting composition comprising: one or more binders; and solid components comprising:

one or more rare earth compounds; and

one or more extenders selected from the group consisting of calcium sulfate, strontium sulfate, and combinations thereof;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

36-38. (Canceled).

- 39. (Previously Presented) The composition of claim 35, wherein the calcium sulfate is hydrous calcium sulfate or anhydrous calcium sulfate.
- 40. (Currently Amended) The composition of claim 35, wherein the solid components at least one of the one or more extenders comprises comprise about 1 wt% to about 99 wt% of at least one of the one or more extenders the solid components.
- 41. (Currently Amended) The composition of claim 35, wherein the solid components at least one of the one or more extenders comprises comprise about 45 wt % to about 75 wt% of at least one of the one or more extenders the solid components.
- 42. (Previously Presented) The composition of claim 35 wherein at least one of the rare earth compounds is selected from the group consisting of rare earth oxides, hydroxides, mixed oxides, solid solution oxides, hydrated oxides, salts, triflates, complexes, and combinations thereof.

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43. (Previously Presented) The composition of claim 35 wherein at least one of the rare earth compounds comprises a metal cation selected from the group consisting of praseodymium, terbium, cerium, samarium, ytterbium, yttrium, neodymium and combinations thereof.

- 44. (Previously Presented) The composition of claim 35 wherein at least one of the one or more rare earth compounds is a praseodymium compound.
- 45. (Original) The composition of claim 44 wherein the praseodymium compound is selected from the group consisting of praseodymium(III), praseodymium(III/IV), praseodymium(IV) compounds and combinations thereof.
- 46. (Original) The composition of claim 44 wherein the praseodymium compound is a praseodymium(III) compound.
- 47. (Previously Presented) The composition of claim 44 wherein the praseodymium compound is a praseodymium(III) oxide, a praseodymium(III/IV) oxide or a praseodymium (IV) oxide.
- 48. (Original) The composition of claim 44 wherein the praseodymium compound is a praseodymium(III/IV) compound.
- 49. (Original) The composition of claim 44 wherein the praseodymium compound is a praseodymium(IV) compound.
- 50. (Previously Presented) The composition of claim 35 wherein the composition is selected from the group consisting of aqueous, solvent-based, and powder coating compositions.
- 51. (Previously Presented) The composition of claim 35 wherein at least one of the one or more binders is an organic polymer selected from the group consisting of epoxy, urethane, urea, acrylate, alkyd, melamine, polyester, vinyl, vinyl ester, organo-silicone, organo-siloxane,

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organo-silicate, organo-sulfide, organo-sulfone, polysulfide, epoxy novolac, epoxy phenolic, amides, drying oils, and hydrocarbon polymers.

- 52. (Previously Presented) The composition of claim 35 wherein at least one of the one or more binders is an epoxy-based resin binder.
- 53. (Previously Presented) The composition of claim 35 wherein at least one of the one or more binders is an inorganic polymer selected from the group consisting of silicone, siloxane and silicate polymers.
- 54. (Previously Presented) The composition of claim 35 wherein the solid components further comprise a coloring pigment.
- 55. (Original) The composition of claim 54 wherein the coloring pigment is TiO₂.
- 56. (Currently Amended) A corrosion inhibiting primer composition comprising: one or more organic binders; and solid components comprising:

a praseodymium (III/IV) mixed oxide;

wherein the solid components the praseodymium (III/IV) mixed oxide comprises comprise about 1wt% to about 90 wt% of the praseodymium (III/IV) mixed oxide the solid components;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

- 57. (Original) The composition of claim 56 wherein the composition is selected from the group consisting of aqueous, solvent-based, and powder coating compositions.
- 58. (Previously Presented) The composition of claim 56 wherein at least one of the one or more organic binders is selected from the group consisting of epoxy, urethane, urea, acrylate,

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alkyd, melamine, polyester, vinyl, vinyl ester, organo-silicone, organo-siloxane, organo-silicate, organo-sulfide, organo-sulfone, polysulfide, epoxy novolac, epoxy phenolic, amides, drying oils, and hydrocarbon polymers.

- 59. (Previously Presented) The composition of claim 56 wherein at least one of the one or more organic binders is an epoxy-based resin binder.
- 60. (Canceled).
- 61. (Previously Presented) The composition of claim 56 wherein the solid components further comprise a coloring pigment.
- 62. (Previously Presented) The composition of claim 61 wherein the coloring pigment is TiO₂.
- 63-66. (Canceled)
- 67. (Currently Amended) A corrosion inhibiting coating composition comprising: one or more binders; and solid components comprising:

one or more rare earth element oxides selected from the group consisting of oxides, mixed oxides, solid solution oxides, hydrated oxides and hydroxides; and

a praseodymium oxide selected from the group consisting of oxides, mixed oxides, solid solution oxides, hydrated oxides, hydroxides, and combinations thereof;

wherein the praseodymium oxide is present in an amount of about 1 wt% to about 90 wt% of the solid components;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

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- 68. (Previously Presented) The composition of claim 67 wherein the praseodymium oxide is selected from the group consisting of PrO₂, Pr₂O₃, Pr₆O₁₁ and combinations thereof.
- 69. (Previously Presented) The composition of claim 67 wherein the solid components further comprise one or more extenders selected from the group consisting of a neutral to slightly acidic generating extender, an acidic generating extender, and combinations thereof.
- 70. (Currently Amended) A corrosion inhibiting coating composition comprising: one or more binders; and solid components comprising:

one or more rare earth element oxides selected from the group consisting of oxides, mixed oxides, solid solution oxides, hydrated oxides, and hydroxides; and one or more extenders selected from the group consisting of calcium sulfate,

strontium sulfate, and combinations thereof;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

71-120. (Canceled)

121. (Currently Amended) A method for preparing a coating composition comprising: preparing a paint formulation; and

adding an effective corrosion-inhibiting amount of a rare earth compound and one or more extenders selected from the group consisting of calcium sulfate, strontium sulfate, and combinations thereof to the paint formulation to produce a coating composition

wherein the coating composition is curable without the addition of external heat.

(Previously Presented) The method of claim 121 further comprising pre-dispersing the 122. rare earth compound with a dispersant.

123-131. (Canceled).

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132. (Previously Presented) The method of claim 121 wherein the rare earth compound is a praseodymium(III) sulfate or a praseodymium(III/IV) oxide.

133. (Previously Presented) The method of claim 121 wherein the one or more extenders are substantially insoluble.

134-138. (Canceled)

139. (Previously Presented) The composition of claim 67 wherein at least one of the one or more rare earth element oxides is a rare earth praseodymium oxide or a rare earth terbium oxide.

140. (Canceled)

141. (Currently Amended) The composition of claim 1 wherein the <u>solid components</u> praseodymium oxide comprises comprise about 1 weight % up to about 40 wt% of the praseodymium oxide solid components.

142. (Canceled).

143. (Previously Presented) The composition of claim 1 wherein the praseodymium mixed oxide is Pr_6O_{11} .

144. (Previously Presented) The composition of claim 143 wherein the Pr₆O₁₁ is present in amounts of about 1 wt% to about 28 wt% of the solid components.

145. (Previously Presented) The composition of claim 143 wherein the Pr₆O₁₁ is present in amounts of about 3 wt% to about 28 wt% of the solid components.

146. (Canceled).

147. (Previously Presented) The composition of claim 35 wherein at least one of the rare earth compounds is an oxide, mixed oxide or combination thereof.

- 148. (Previously Presented) The composition of claim 147 wherein the solid components further comprise a second rare earth compound selected from the group consisting of rare earth oxides, mixed oxides, solid solution oxides, hydroxides, hydrated oxides, salts, triflates, complexes and combinations thereof.
- (Previously Presented) The composition of claim 56 wherein the solid components 149. further comprise an additional rare earth compound selected from the group consisting of rare earth oxides, mixed oxides, solid solution oxides, hydroxides, hydrated oxides, salts, triflates, complexes and combinations thereof.
- 150. (Previously Presented) The composition of claim 67 wherein at least one of the one or more rare earth element oxides is selected from the group consisting of Y₂O₃; La₂O₃, CeO₂, Pr(OH)₃, PrO₂, Pr₂O₃, Pr₆O₁₁, Nd₂O₃, Sm₂O₃, Tb₄O₇, and Yb₂O₃.
- (Previously Presented) The composition of claim 70 wherein at least one of the one or 151. more rare earth element oxides is an anhydrous praseodymium oxide.
- 152-153. (Canceled).
- (Withdrawn) A corrosion inhibiting primer composition comprising: 154. a rare earth triflate or a rare earth carbonate; and a binder.
- 155. (Withdrawn) The composition of claim 154 wherein the rare earth triflate or rare earth carbonate comprises one or more metal cations selected from the group consisting of

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praseodymium, terbium, cerium, samarium, ytterbium, yttrium, neodymium and combinations thereof.

156. (Withdrawn) The composition of claim 154 wherein the rare earth triflate is a praseodymium triflate or a terbium triflate and the rare earth carbonate is a praseodymium triflate or a terbium triflate.

- 157. (Withdrawn) The coating composition of claim 154 further comprising one or more metal cations selected from the group consisting of Group 1A, Group 2A, Group 3A, and Group 3B metals.
- 158. (Withdrawn) The coating composition of claim 154 further comprising one or more anions selected from the group consisting of acetate, borate, carbonate, nitrate, phosphate, phosphonate, sulfate, triflate, and EDTA.
- 159. (Withdrawn) The composition of claim 154 further comprising a second rare earth compound selected from the group consisting of rare earth oxides, mixed oxides, solid solution oxides, hydroxides, hydrated oxides, salts, triflates, complexes and combinations thereof.
- 160. (Previously Presented) The method of claim 121 wherein the rare earth compound is a praseodymium oxide or praseodymium mixed oxide.
- 161. (Previously Presented) The method of claim 160 wherein the praseodymium mixed oxide is Pr_6O_{11} .
- 162. (Withdrawn) The method of claim 121 further comprising adding a material selected from the group consisting of amino acids, derivates of amino acids, and combinations thereof to the paint formulation.

(Withdrawn) The method of claim 121 further comprising adding a material selected 163. from the group consisting of gelatin, gelatin derivatives, and combinations thereof to the paint formulation.

164. (Currently Amended) A method for preparing a coating composition comprising: preparing a paint formulation comprised of an organic binder; and adding an effective corrosion-inhibiting amount of a solid component comprising:

a praseodymium compound selected from the

group consisting of oxides, mixed oxides, solid solution oxides, hydrated oxides, hydroxides, and combinations thereof to the paint formulation to produce a coating composition;

wherein the praseodymium compound comprises about 1 wt% to about 90 wt% of the solid components;

wherein the corrosion inhibiting coating composition is curable without the addition of external heat.

- (Previously Presented) The method of claim 164 wherein the praseodymium compound 165. is Pr_6O_{11} .
- (Previously Presented) The method of claim 164 wherein the solid components further 166. comprise an additional rare earth compound selected from the group consisting of rare earth oxides, mixed oxides, solid solution oxides, hydroxides, hydrated oxides, salts, triflates, complexes and combinations thereof to the paint formulation.
- 167. (Previously Presented) The method of claim 164 wherein the solid components further comprise one or more extenders.
- (Previously Presented) The method of claim 164 further comprising the step of pre-168. dispersing the praseodymium compound with a dispersant.

169-183. (Canceled).

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184. (Previously Presented) The composition of claim 7 wherein the solid components further

comprise one or more extenders selected from the group consisting of a neutral to slightly acidic

generating extender.

185. (Canceled).

186. (Previously Presented) The composition of claim 184 wherein at least one of the one or

more extenders is calcium sulfate.

187. (Previously Presented) The composition of claim 186 wherein the calcium sulfate is

selected from the group consisting of hydrous calcium sulfate, anhydrous calcium sulfate and

combinations thereof.

188-190. (Canceled).

191. (Previously Presented) The method of claim 121 wherein the rare earth compound is

praseodymium hydrogen sulfate.

192-195. (Canceled).